OPERON® B 810
INSTALLATION & OPERATING MANUAL

INSTALLATION AND OPERATOR MANUAL 70-000-0026

Related Publications:
OPERON B 810 Uncrating Instructions 60-000-0002
OPERON B 810 Service and Parts Manual 70-000-0027

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ETL/CETL LISTED TO IEC 60601-1. MEDICAL ELECTRICAL EQUIPMENT

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- IMPORTANT -
THE SAFETY INSTRUCTIONS THAT FOLLOW APPEAR WITHIN THE MANUAL.
READ THEM CAREFULLY BEFORE OPERATING THE UNIT AND FOLLOW INSTRUCTIONS.

SPECIAL SAFETY INSTRUCTIONS

SAFETY SYMBOLS

This manual uses special symbols to help alert you to important safety information:

*This symbol identifies a **WARNING**. A warning indicates that the procedures in the following text involve actions that could cause harm or death to an individual if certain precautions are not taken. The warning text always provides specific information on what you must do to avoid the risk.*

*This symbol identifies a **CAUTION**. A caution indicates that the procedures in the following text involve actions that could cause damage to the equipment, including the failure to operate. The caution text always provides specific information on what you must do to avoid the risk.*

*This symbol identifies a **NOTE**. A note contains information that can help you perform the procedure in the following text more effectively.*

USE CONDITIONS

***WARNING** — POSSIBLE EXPLOSION HAZARD: **Do not operate the table in the presence of flammable anesthetics.** The **OPERON B 810** table is designed for use in non-hazardous anesthetizing locations.*

PINCH POINTS

***WARNING** — Cutting or crushing injury may occur if any part of a patient or staff member is caught in a pinch point when the table is articulated.*

***WARNING** — Damage to the table or object may occur if any foreign object, accessory, clamp, etc., is in a table pinch point when a table is articulated.*

Pinch points include, but are not limited to:

- Kidney elevator to seat channels
- Kidney elevator to seat top
- Kidney elevator to back section
- Back section to side shields
- Leg section to side shields
- Leg section to column shield
- Leg section to base cover
- Leg section to seat section
- Back section link to seat channel
- Column shields to base cover
- Side shields to column shields (in tilt)
- Floor feet to base
- Floor feet to floor
- Base to floor
- Headrest to back section

This list is not all-inclusive because pinch points can be created by the attachment of accessories. Always check that the patient and staff are clear of pinch points before and while the table is in motion. Refer to Figure 3-1 for details.

CONTROL PENDANTS

NOTE *— The primary hand pendant can be configured for normal or reverse patient orientation by pressing the NORMAL or REVERSE buttons on the pendant. This reverses all functions except floor locking, table up/down, and kidney up/down. Using the reverse function also disables the chair function.*

WARNING *— The primary hand pendant is configured for normal patient orientation. If the patient is reversed, the back function must be used to raise or lower the patient's legs and the Leg function must be used to raise or lower the patient's back. Trendelenburg, tilt, and slide functions are also reversed if the patient is in reverse orientation.*

WARNING *— The auxiliary hand pendant is configured for normal patient orientation. If the patient is reversed, the Back function must be used to raise or lower the patient's legs and the Leg function must be used to raise or lower the patient's back. Trendelenburg, tilt, and slide functions are also reversed with respect to the patient's orientation.*

WARNING *— The auxiliary hand pendant functions will operate regardless of whether the floor feet are locked or unlocked. If the floor feet are unlocked, the table may roll when the manual pump is operated.*

CAUTION *— The auxiliary hand pendant does not have the following functions: flex, chair, return to level, or slide. This pendant is intended to be used along with the manual foot pump for completing procedures, followed by charging the batteries or servicing the table.*

LOAD CAPACITY

This table has a patient lifting and articulation capacity of 600 lbs. (273 kg). Positioning and constraints are discussed on page S-3. Do not exceed this maximum load in service. See FIGURE S-1.

WARNING *— Overloading may result in tipping of the table or failure of the table sections to move. Do not exceed the maximum load.*

NOTE *— The use of some accessories will put additional restrictions on patient weight. Accessories provided by Berchtold Corporation, when used as intended, are designed to perform safely with the patient loads for which this table was designed. A Berchtold Corporation accessory that puts additional restrictions on patient weight, when used as intended, will be clearly labeled to indicate the maximum allowed loads.*

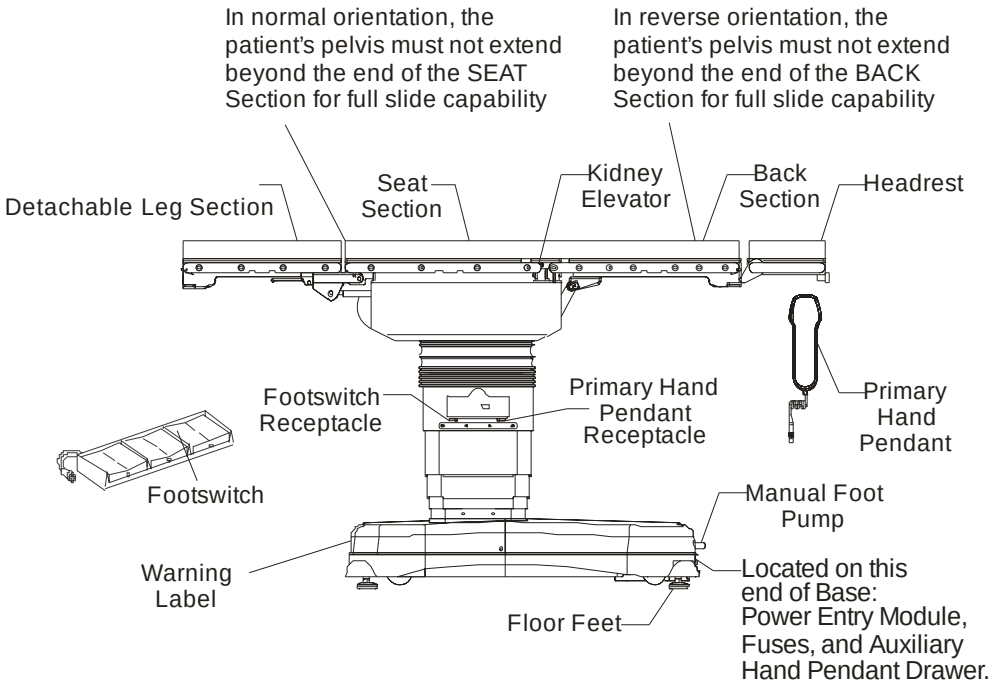

In normal orientation, the patient's pelvis must not extend beyond the end of the SEAT Section for full slide capability
In reverse orientation, the patient's pelvis must not extend beyond the end of the BACK Section for full slide capability
Detachable Leg Section
Seat Section
Kidney Elevator
Back Section
Headrest
Footswitch Receptacle
Primary Hand Pendant Receptacle
Primary Hand Pendant
Footswitch
Manual Foot Pump
Warning Label
Located on this end of Base: Power Entry Module, Fuses, and Auxiliary Hand Pendant Drawer.
Floor Feet

FIGURE S-1 MAXIMUM WEIGHT LOCATION

PATIENT POSITIONING

WARNING

WARNING *— POSSIBILITY OF TIPPING: Table stability may be compromised if patients are positioned beyond the following limits:*

Normal Patient Orientation

The patient's pelvis should not be extended beyond the end of the seat section. The patient's legs may be placed on a leg extension attached to the end of the leg section.

Reversed Patient Orientation

The patient's pelvis should not be extended beyond the back section. The patient's legs may be placed on a leg extension attached to the end of the back section.

Full articulation and full slide in either direction can be safely achieved with a 600lb (273kg) patient if these steps are followed.

WARNING

WARNING *— Before positioning the table, be sure the correct table orientation is selected as indicated by the NORM or REV indicator on the primary control pendant. Improper orientation will result in reverse functioning and potential patient injury.*

WARNING

WARNING *— Possibility of tipping: If full slide forward is required, the patient's pelvis must always be located over the seat section when in normal orientation. Using full forward slide while the patient's pelvis is on the leg section can impair table stability and result in patient injury or equipment damage.*

WARNING

WARNING *— The leg section may be removed from the table. If it is left on the table, use caution when raising the leg section while the patient is in this position.*

OPERATION

WARNING— *The table should always be locked to the floor whenever a patient is on the table or being transferred to or from the table. This is accomplished by extending the table's feet by activating the FLOOR LOCK function.* ***This table is not intended for patient transport.***

CAUTION *— Storage of clamps, accessories, etc., on the base cover may result in damage to lift column shields and prevent proper elevation or descent of the table.*

CAUTION *— The footswitch's electrical connections are resistant to fluid intrusion, but if fluid drainage is anticipated, the footswitch should be protected by wrapping it with a clear disposable footswitch bag. This will reduce the need to disinfect the footswitch.*

TABLE MOVEMENT WITH PATIENT

WARNING *— If the table needs to be moved with a patient on the table, it is very important to follow the following instructions to prevent patient injury or equipment damage.*

WARNING *— The table should not be used to transport a patient over a long distance. This procedure is only meant for repositioning the table within the surgical suite.*

WARNING *— Do not mount knee crutches or leg holders to the headrest side rail. The headrest should only be used for supporting the head or feet. Do not lean on the headrest. The headrest has a weight limit of 25lbs.*

WARNING *— Be sure that when articulating the headrest, the locking mechanism ends up properly engaged, and not in between positions. The headrest may move when load is applied until the locking mechanism engages.*

WARNING *— When releasing the locking mechanism, support the headrest, as it will fall freely if the locking mechanism is not engaged.*

WARNING *— Failure to securely lock the leg section into place may result in patient injury. Always check the retention of the leg section upon installation.*

ENVIRONMENTAL REQUIREMENTS

WARNING— *The batteries are sealed to prevent spilling of the acid electrolyte. If punctured and contact is made with the acid, flush with cold water for 15 minutes.*

WARNING— *Although the batteries are sealed to prevent spilling, they are vented to allow for normal out gassing. Because of this, the table should not be used in a room that has no ventilation system.*

CAUTION *— The batteries contain LEAD, and if replaced, need to be recycled in accordance with local environmental regulations.*

CAUTION *— Do not expose the table to steam or heat sources, or place the table where it may be exposed to unusually high temperatures.*

CAUTION *— Allow the table to reach room temperature prior to operation if the table was exposed to excessively hot or cold conditions during transport or storage.*

WARNING *— When using the table in the vicinity of high-frequency surgical equipment, such as cardiac defibrillators, and cardiac defibrillator monitors, refer to the manufacturers' instructions to ensure compatibility issues are considered.*

UNPACKING

WARNING *— POSSIBILITY OF INJURY: This table weighs approximately 715 pounds (325 kg). At least two persons are required to remove the table from its shipping container.*

WARNING *— POSSIBILITY OF INJURY: Do not attempt to lift the table by its top sections. Failure to follow uncrating instructions in the order given will result in difficulty in removing the table from the skid and possible personal injury.*

CAUTION *— Do not attempt to lift the table by its seat section or side rails. Do not allow the table to drop off the ramp, as this can damage the casters.*

WARNING *— POSSIBILITY OF TIPPING: The table will roll freely with the legs unlocked. At least two people are required to roll the table down the ramp.*

CHECKS AND ADJUSTMENT

WARNING *— Installation checkout is necessary to ensure that handling during shipment did not damage the table.*

RADIOLUCENT TABLE TOP AND PADS

CAUTION *— The anti-static properties of the table depend on the use of the recommended mattress. Compromise of the anti-static properties could expose the patient or OR personnel to an electrostatic shock. It could also deliver a shock to the table's electronics that could damage or destroy critical components.*

CAUTION *— Protect the top and bottom surfaces from nicks and scratches. Scratches more than 0.005 inches (127 microns) deep may appear on x-rays. Damaged or scratched panels should be replaced if x-ray quality is affected.*

POWER SUPPLY

WARNING *— Repeated breaker tripping or fuse replacement may indicate a ground fault or overload condition. The table will not operate reliably under these conditions, and may be electrically unsafe. Do not use the table until these conditions are corrected.*

CLEANING AND DISINFECTION

WARNING *— Unplug the power cord before cleaning the table if cleaning liquids will be located near the power cord receptacle. Under no circumstances should steam or extremely hot water (over 150°F/66°C) be used to disinfect or clean the table. Elevated temperatures and unusually high humidity will weaken the hydraulic lines and result in failure of the hydraulic system and increased leakage currents. Do not attempt to clean this table in automatic cart washing equipment. Use of high-pressure water guns could lead to an electrical malfunction and must be avoided.*

CAUTION *— Failure to thoroughly dry the surface after cleaning may result in rust.*

ACCESSORIES DESIGNED BY OTHERS

Berchtold Corporation assumes no liability for table performance when used with accessories designed by others for use on Berchtold equipment, or damage resulting to Berchtold equipment resulting from the use of accessories designed by others.

WARNING LABELS

FIGURE S-2 shows the patient safety warning label attached to the table. The label is located on the base at the foot end.

⚠ WARNING
GENERAL PATIENT SAFEGUARDS
• BEFORE USING THE SURGICAL TABLE READ AND THOROUGHLY UNDERSTAND ITS OPERATOR MANUAL P/N 70-000-0026.
• HEALTH CARE PROFESSIONALS MUST INSURE PATIENT IS PROPERLY POSITIONED AND MONITORED TO PROTECT PATIENT.
• PROTECT PATIENTS FROM PINCH POINTS. REFER TO OPERATOR MANUAL P/N 70-000-0026 FOR SPECIFIC PINCH POINT LOCATIONS.
• INSTALL AND TIGHTEN ALL ACCESSORIES ACCORDING TO INSTRUCTIONS. DO NOT USE DAMAGED OR WORN ACCESSORIES.
TIPPING HAZARD AND SAFE WORKING LOAD
• DO NOT PLACE PATIENT ON TABLE UNLESS FLOOR LOCKS ARE ENGAGED.
• DO NOT TRANSPORT A PATIENT OVER A LONG DISTANCE WHILE ON TABLE.
• SEE OPERATOR MANUAL 70-000-0026 FOR INSTRUCTIONS ON SAFELY MOVING TABLE WITH PATIENT.
• DO NOT EXCEED 600 LB. [295 KG] FOR "NORMAL" OR "REVERSE" ORIENTATION. SEE SPECIFIC TABLE SET-UP INSTRUCTIONS IN OPERATOR MANUAL P/N 70-000-0026.
• DO NOT EXCEED 400 LB. WITH BEACH CHAIR ACCESSORY.
• DO NOT EXCEED 300 LB. WITH FRACTURE ATTACHMENT UNIT.
• CAUTION: DAMAGE TO TABLE IS POSSIBLE IF TABLE BASE USED FOR ACCESSORY STORAGE.
CAUTION: LEG SECTION MAY CONTACT TABLE BASE IN LOWERED POSITION. REMOVE LEG SECTION TO PREVENT DAMAGE.
EXPLOSION HAZARD
DO NOT OPERATE THE TABLE IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

Drawing 306651 Rev. 1

FIGURE S-2 PATIENT SAFETY WARNING LABEL

WARNING *— Always replace fuses with fuses of the same voltage and current rating. Failure to use the correct fuse could cause a fire and injury to the patient or OR personnel.*

FIGURE S-3 shows the product information label attached to the top of the column on the head side of the table. The product information label also contains fuse replacement information.

Product Identification Information
BERCHTOLD CORP.
1950 HANAHAN RD.
N. CHARLESTON, SC 29406
MODEL NUMBER
SERIAL NUMBER
DATE MANUFACTURED
FUSE TYPES
F1 F2 8A/125V FOR 115V / 4A/250V FOR 230V 5mm X 20mm SLO BLO
F3 F4 FOR BATTERY AND PUMP: 20A/32V ATO FAST ACTING
F5
F6 20A/32V ATO FAST ACTING (SPARE)
Fuse Information

FIGURE S-3 PRODUCT IDENTIFICATION LABEL

INSTALLATION INSTRUCTIONS

These instructions provide the information necessary to unpack and install the **OPERON B 810** Surgical Table.

ELECTRICAL POWER REQUIREMENTS

WARNING — POSSIBLE EXPLOSION HAZARD: Do not operate the table in the presence of flammable anesthetics. *The* ***OPERON B 810*** *table is designed for use in non-hazardous anesthetizing locations.*

NOTE *— This table has been designed to be connected to circuits installed in accordance with NFPA 70 — National Electrical Code. The user should also be familiar with NFPA 99 — Health Care Facilities. Consult these references if you have any doubt about the compliance of the user's maintenance program or electrical system with code requirements.*

NOTE *— This table is classified as Class 1, Type B equipment in its type and degree of protection against electrical shock.*

NOTE *– The table can be factory configured for 230 VAC operation based on customer order requirements. The modifications involve only components associated with the AC mains supply. The information below describes only the 115 VAC components. Refer to the Service Manual (publication 70-000-0027) for identification of the 230 VAC components.*

The Berchtold **OPERON B 810** table is completely battery-operated. It only requires AC power for battery charging, but it may be operated directly from AC power when necessary or desirable.

The table is provided with a 14-ft. (4.27 m), 16 AWG, three-conductor power cord terminated with a hospital grade, three-prong plug. Attachment of a plug of alternate design, if required, is the responsibility of the customer.

The **OPERON B 810** contains two (2) 12V 28 Amp-hour Sealed Lead Acid (SLA) batteries. The batteries are connected in series to provide 24V for the table's electrical system. The batteries are fused to prevent high discharge due to a power short. The charging system is designed to allow the table to be connected to AC indefinitely without overcharging or damaging the batteries. Other than periodic charging, the batteries do not require maintenance.

ENVIRONMENTAL REQUIREMENTS

WARNING*— The batteries are sealed to prevent spilling of the acid electrolyte. If punctured and contact is made with the acid, flush with cold water for 15 minutes.*

WARNING*— Although the batteries are sealed to prevent spilling, they are vented to allow for normal out gassing. Because of this, the table should not be used in a room that has no ventilation system.*

CAUTION *— The batteries contain LEAD and, if replaced, need to be recycled in accordance with local environmental regulations.*

CAUTION *— Do not expose the table to steam or heat sources, or place the table where it may be exposed to unusually high temperatures.*

CAUTION *— Allow the table to reach room temperature prior to operation if the table was exposed to excessively hot or cold conditions during transport or storage.*

See "ENVIRONMENTAL REQUIREMENTS" in Table 2-1 for the appropriate environmental conditions for the **OPERON B 810** table.

Store the table in a cool, dry place. Do not subject the table to environmental conditions in excess of those specified in Table 2-1.

TOOLS REQUIRED

The following tools are required:

- Level
- Angle indicator
- Tape measure
- 11 & 14mm socket wrench
- Diagonal cutters
- Flathead screwdriver
- Pliers

UNPACKING

WARNING

WARNING *— POSSIBILITY OF INJURY: This table weighs approximately 715 pounds (325 kg). At least two persons are required to remove the table from its shipping container.*

WARNING

WARNING *— POSSIBILITY OF INJURY: Do not attempt to lift the table by its top sections. Failure to follow uncrating instructions in the order given will result in difficulty in removing the table from the skid and possible personal injury.*

NOTE

NOTE *— Warranty shall be void if customer fails to call Berchtold Corporation Sales Representative before unpacking.*

1. Cut the strapping around the shipping box, and remove the top cover (FIGURE 1-1).

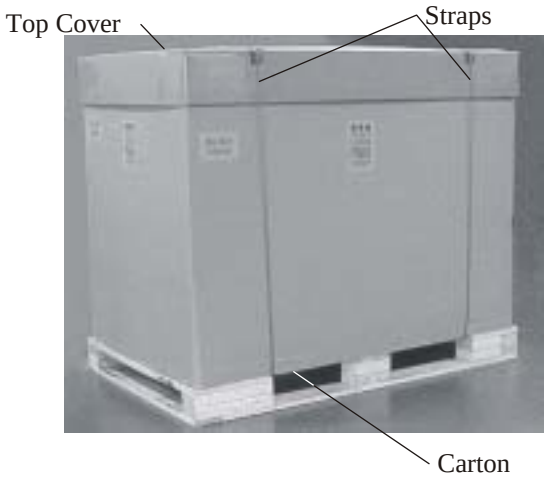


FIGURE 1-1 SHIPPING CONTAINER

2. Remove the ramp from the box.
3. Cut and remove all strapping and top bracing frames.
   - Be careful not to mar finish.
   - Remove the plastic bag covering the table.
4. Check contents of smaller carton:
   a. Primary Hand Pendant
   b. Headrest
   c. Power Cord
   d. Installation and Operator Manual
5. Remove primary hand pendant from the smaller carton.
6. Plug pendant into receptacle on the right side of the remote control box located on the left side of the table's column, aligning the red dots on the connectors. See FIGURE S-1.
7. Place the ON/OFF switch located on the base in the ON position. It is not necessary to plug in the power cord.
8. Press the ON button on the primary hand pendant. The pendant will turn on and illuminate.

NOTE

NOTE *— If battery indicator on the primary hand pendant is green or yellow, it is not necessary to use the manual foot pump or plug the table into AC. If battery indicator is red, the table can be plugged into AC; or when using the auxiliary hand pendant, follow the manual foot pump procedure outlined under "MANUAL FOOT PUMP" later in this manual.*

NOTE

NOTE *— The primary hand pendant will automatically turn off after 90 minutes if a table function is not selected and the table is not plugged into AC. To reactivate the pendant, press either the pendants ON button or a function button to move the selected function.*

9. Press the LOCK Button on the primary hand pendant to extend the locking cylinders. The LOCK LED on the primary hand pendant will illuminate.
10. Remove the lag screws that retain the bracing supports. See FIGURE 1-2.

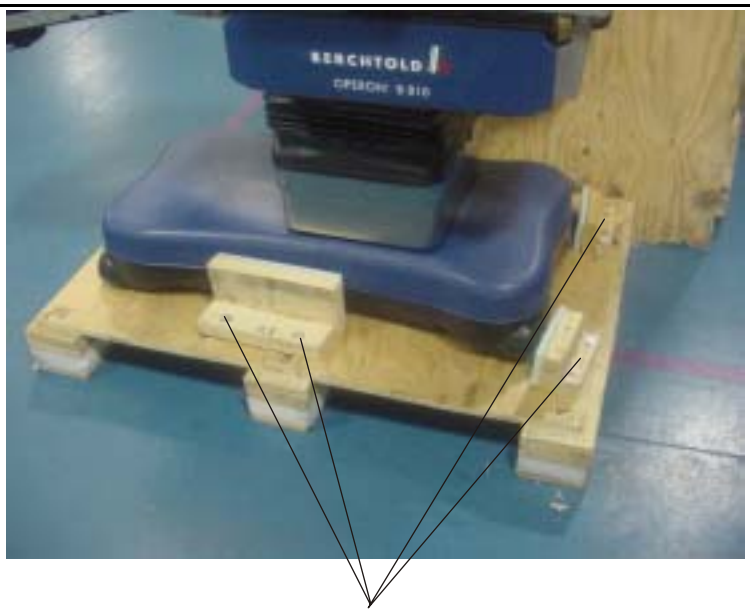


FIGURE 1-2 SHIPPING CLAMPS

11. Align the ramp on the side of the shipping skid (FIGURE 1-3).

12. Remove the slats beneath the base.

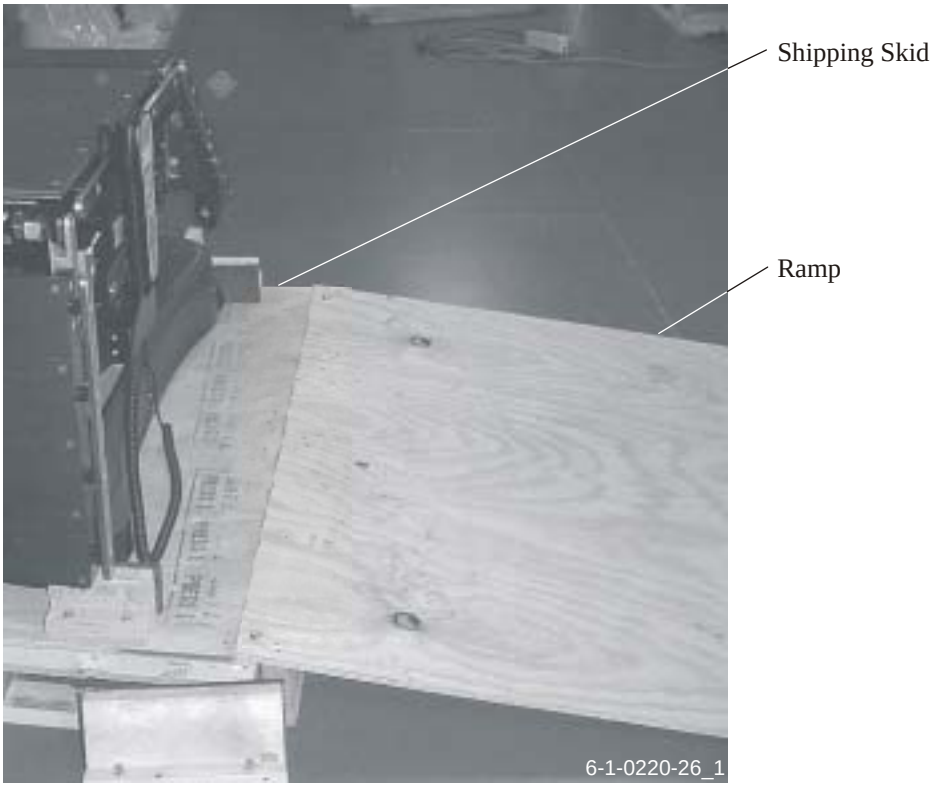


FIGURE 1-3 LOADING/UNLOADING RAMP

13. Press the UNLOCK button on the pendant. This will raise the feet and allow the casters to rest on the pallet.

CAUTION

CAUTION *— Do not attempt to lift the table by its seat section or side rails. Do not allow the table to drop off the ramp, as this can damage the casters.*

WARNING

WARNING *— POSSIBILITY OF TIPPING: The table will roll freely with the legs unlocked. At least two people are required to roll the table down the ramp.*

14. With a partner, slowly move the table down the ramp (FIGURE 1-4).

15. Save all packaging materials.

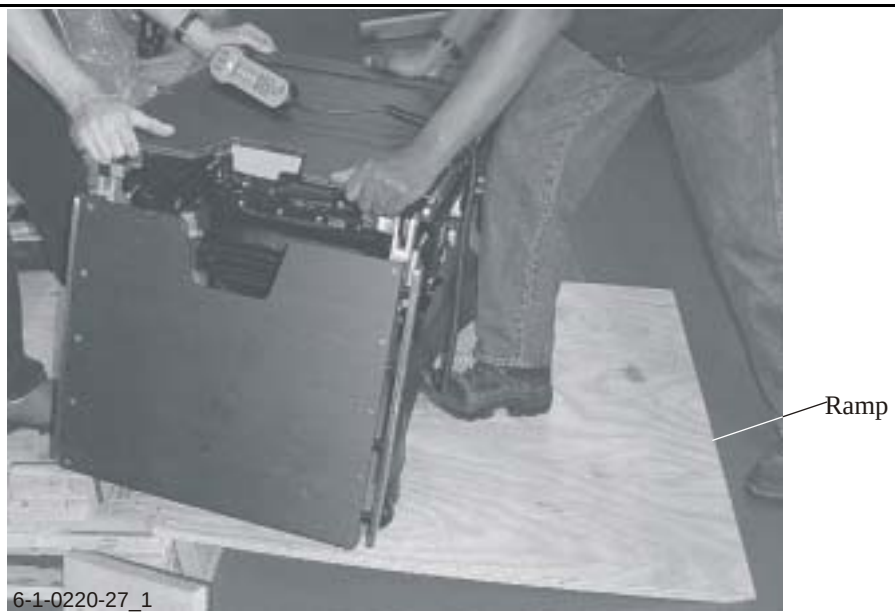


FIGURE 1-4 REMOVE TABLE FROM SKID

INSTALLATION

Installing the Pads

The tabletop is fitted with a matching set of conductive radiolucent pads.

CAUTION

CAUTION *— The anti-static properties of the table depend on the use of the recommended mattress. Compromise of the anti-static properties could expose the patient or OR personnel to an electrostatic shock. It could also deliver a shock to the table's electronics that could damage or destroy critical components.*

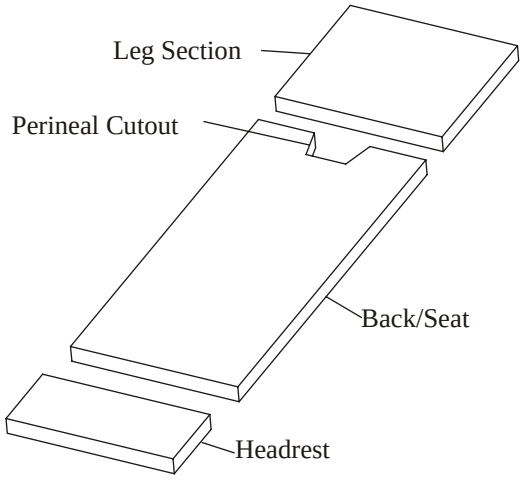


FIGURE 1-5 PAD SET

To install the pads, align them with the edge of the tabletop and press down. Velcro tape will hold the pads in place.

To remove the pads, pull up at one corner and peel them from the tabletop.

If pad replacement is necessary, replace with Berchtold replacement pads.

Cleaning instructions are outlined under "MAINTENANCE"" beginning on page 4-1.

Installing the Headrest

The headrest can be installed at either end of the table. Attach headrest to back/seat section for standard table set-up.

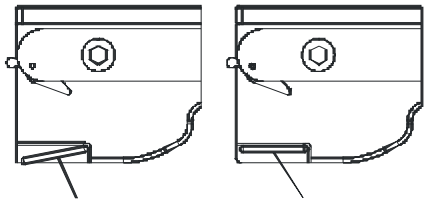


FIGURE 1-6 LOCKING LEVERS

Locking levers are located on the underside at the end of the back and leg sections, and are used to secure the headrest. The levers have two positions, locked and unlocked.

Installing the Headrest:

1. Slide the headrest into its location as far as possible, until you hear the locks engage.
2. Pull the headrest towards you to ensure that it is locked into place.

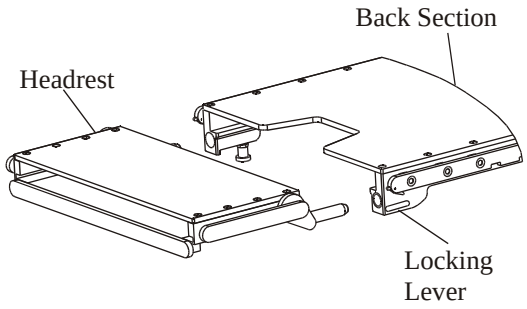


FIGURE 1-7 HEADREST

Removing the Headrest:

1. Depress the two locking levers on the underside of the table while you pull the headrest away from the table.
2. Grasp the headrest on each side, and remove.

CHECKS AND ADJUSTMENT

WARNING *— The installation checkout is necessary to ensure that handling during shipment did not damage the table.*

NOTE *— If the table was stored where the ambient temperatures were significantly hotter or colder than 50° to 100° Fahrenheit (10° to 38° Celsius), the table's hydraulic fluid may have expanded or contracted enough to affect the positions of table sections. This situation will correct itself as the table warms or cools to room temperature.*

After carefully uncrating the table, perform the following checks:

1. Be sure that all accessories and attachments have been removed from packing material.
2. Examine table to be sure that all straps, shims, and other packaging materials have been removed.
3. Verify that the AC line voltage (mains) is within the range of 108 to 132VAC.
4. Operate the table to confirm the articulation range of all functions. Follow the checklist below:
   - Table locking system engages and disengages properly and immobilizes table.
   - Tabletop travels from a minimum height of 28" (711 mm) to a maximum of 48" (1219 mm) (without pads).
   - Slide forward and reverse moves tabletop through 12" (305 mm) of travel.
   - Tabletop tilts right and left 20°.
   - Leg section adjusts from 0° above horizontal to a minimum of 105° below horizontal.
   - Back section adjusts from 80° above horizontal to 40° below horizontal.
   - Kidney elevator raises 3" (76 mm) above table surface and retracts properly.
   - Trendelenburg and reverse Trendelenburg allows movement to 30° above and below horizontal.
   - Flex position enables formation of an inverted "V" of 225°.

- Chair position enables formation of a chair (see FIGURE 1-8).

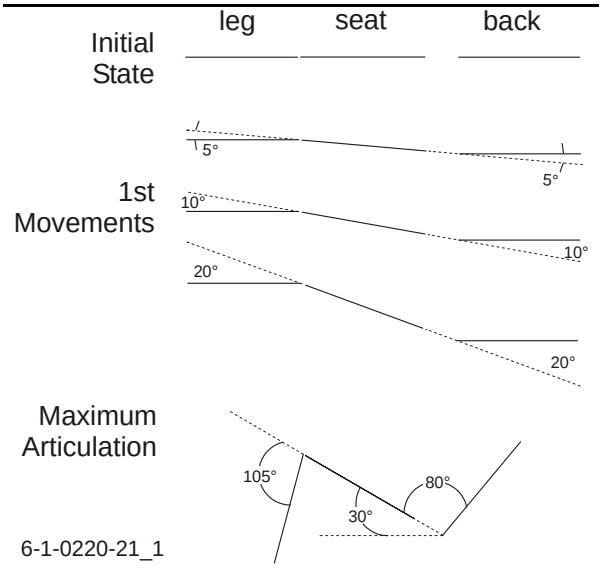


FIGURE 1-8 CHAIR POSITION

- Return-to-Level returns all table sections to within 1 degree of level head-to-foot and side-to-side.
- Auxiliary control pendant and manual foot pump operate correctly. (Refer to MANUAL FOOT PUMP on page 2-7.)

5. Inspect exterior surfaces for presence of hydraulic fluid, especially under the base and side panels. If a leak is evident, contact the manufacturer.

6. **It is recommended the batteries be fully charged overnight before introducing table into service**. The charging system is activated when the table is plugged into mains AC power (hospital receptacle) and the green charging indicator lamp next to the plug is illuminated.

SETTING THE TABLE LEVELS

The table must know the zero position of all articulation functions for the return-to-level function to work properly. These zero positions are set at the factory, but they should be checked when the table is first installed and adjusted if necessary. The level settings also should be checked periodically and reset whenever necessary.

There are two ways to set the zero (or level) position for each articulation. One uses the service software program and is explained in detail in the *Service and Parts Manual* (70-000-0027). The other is explained below:

1. Level all sections using the hand pendant for motion control and an accurate level for measurement:
   - Headrest
   - Back
   - Kidney
   - Seat
   - Leg
   - Tilt
   - Trendelenburg

2. Turn the main ON/OFF switch in the base power center to the OFF position.

3. Perform the following actions as listed:
   a. Press and hold the OFF button on the hand pendant.
   b. Press and hold the LEVEL button on the hand pendant.
   c. While continuing to hold both the hand pendant OFF and LEVEL buttons, turn the main ON/OFF switch in the base power center to the ON position.

The table will record the leveled positions as the zero positions and will return to these settings whenever the Return-to-Level button in pushed.

AC FUSES (MAINS AC)

The table has been supplied with two 8-amp 5x20mm time delay fuses in the power cord receptacle. These fuses are accessible through the right hand power center without removing the covers. (See FIGURE 2-2 for the power center location.)

GENERAL INFORMATION

GENERAL DESCRIPTION

The Berchtold **OPERON B 810** surgical table is a remote controlled, full-function design offering a high level of patient positioning and imaging flexibility to the surgical team. The table can be activated by AC power through the power cord (input range of 115V ±10%) or by battery power, which requires no power cord except when charging the batteries.

An electric motor with a screw drive is used to slide the table top head to foot.

Hydraulic cylinders are used to articulate the table's sections. Hydraulic pressure is provided by a motor driven pump during normal use, and by a manual foot pump in manual back-up mode.

A hand-held control pendant is used to control table positions.

The tabletop is divided into the following sections (FIGURE 2-1):

- Headrest
- Back Section
- Kidney Elevator
- Seat Section
- Leg Section

A leg extension can be added to extend the tabletop surface.

RADIOLUCENT TABLE TOP AND PADS

The tabletop surface is made from electrically conductive radiolucent panels. The table is fitted with a matching set of conductive radiolucent pads. Velcro tape holds the pads in place.

CAUTION *— Protect the top and bottom surfaces from nicks and scratches. Scratches more than 0.005 inches (127 microns) deep may appear on x-rays. Damaged or scratched panels should be replaced if x-ray quality is affected.*

Each table section has a cassette channel that can accommodate x-ray cassettes up to 14" x 17" (356 x 432 mm).

INTERCHANGEABLE HEADREST

The tabletop has perineal cutouts in both seat and back sections. The back/seat pad can be reversed to expose the desired cutout. The headrest can be interchanged to allow for normal and reversed patient orientation.

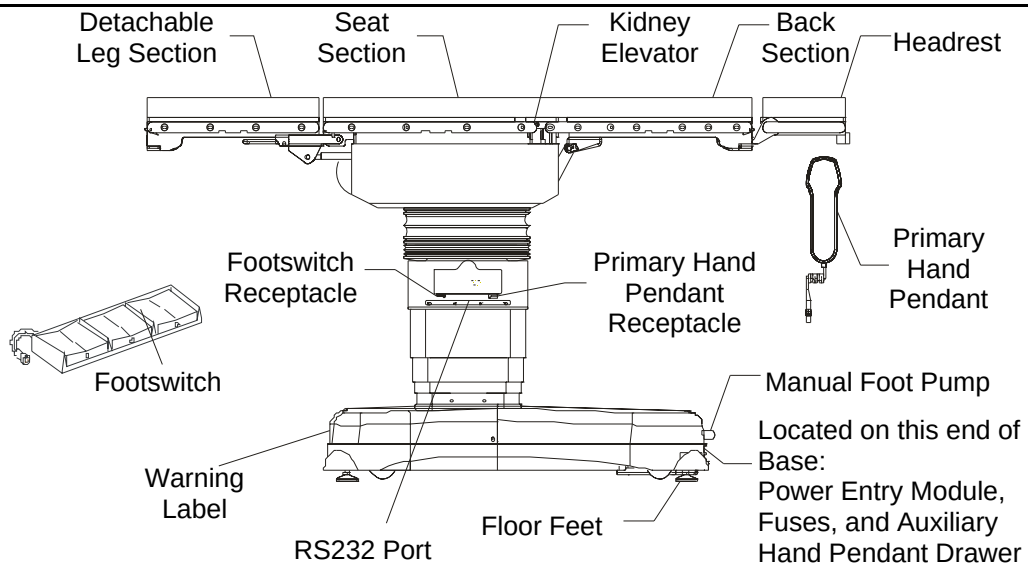


FIGURE 2-1 OPERON B 810 SURGICAL TABLE

POWER SUPPLY

WARNING

WARNING *— Repeated breaker tripping or fuse replacement may indicate a ground fault or overload condition. The table will not operate reliably under these conditions, and may be electrically unsafe. Do not use the table until these conditions are corrected.*

NOTE

NOTE *— Recharge the batteries as indicated by the battery indicator on the control pendant. For longevity, it is good practice to charge the batteries at least once a week.*

When the table is plugged into a 120VAC receptacle, it is powered by AC (mains). When the power cord is not plugged in, the batteries provide power to the table. In either case, the ON/OFF switch on the base must be ON to articulate any table sections. When the ON/OFF switch on the base is OFF, the table's electronics and pump motor are isolated from the power supply and the batteries, regardless of the pendant used.

When the charge indicator lamp near the power cord receptacle is lit, the table senses AC power and activates the battery charging system. If AC is present, the battery charging system is activated whether the ON/OFF switch on the base is in the ON or OFF position. The table can remain plugged into AC indefinitely without damaging the batteries.

The battery indicator on the primary hand pendant displays the battery charge status. This display has three sections: green (full charge), yellow (low charge), and red (recharge). Only one color will be activated at a time.

NOTE

NOTE *— In the unlikely event of a control failure, the table movements can be stopped by switching the breaker on the base to the off (down) position.*

FUSES

Two sets of fuses are accessible without removing the base covers. The first set, located within the receptacle for the power cord, contains two fuses. These fuses protect against current surges in the AC (mains) line. The second set, located behind the hinged door next to the ON/OFF switch, contains four fuses. Three of these fuses protect against surges in the DC circuitry; one fuse serves as a spare. Fuses F3 and F4 are 20 Amp rated. Fuse F5 is 2 Amp rated.

In addition to the fuses, the ON/OFF switch serves as a circuit breaker with a 20 Amp rating.

See FIGURE 2-2 for the fuse locations. See FIGURE 2-3 for the product identification and fuse information label.

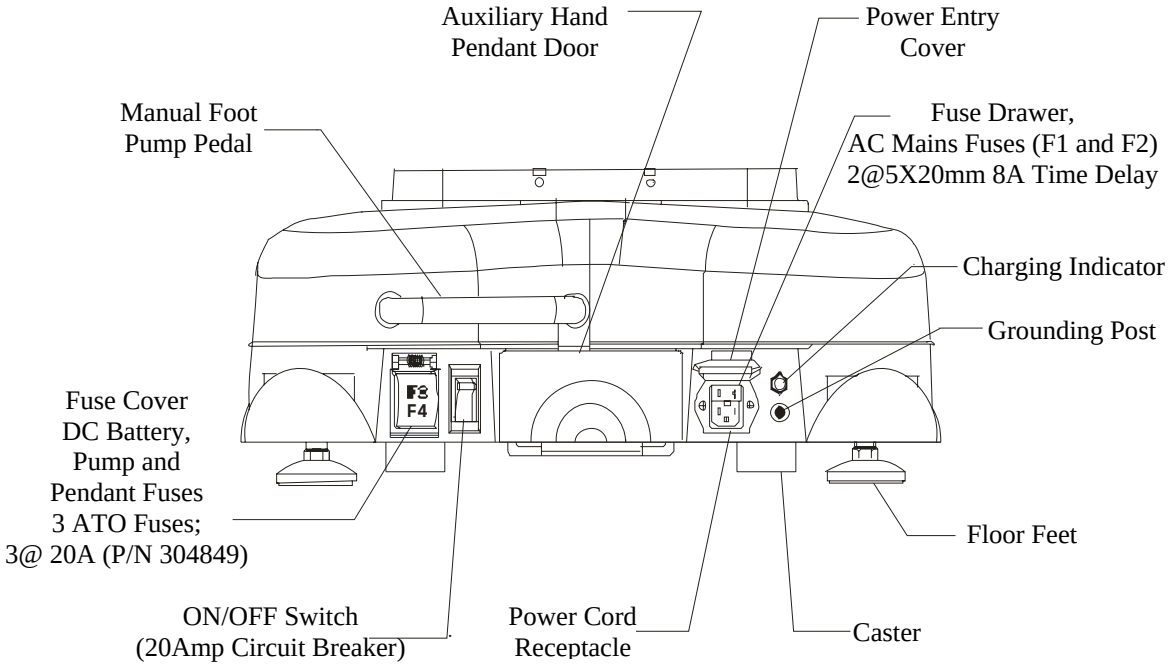

Auxiliary Hand Pendant Door
Power Entry Cover
Manual Foot Pump Pedal
Fuse Drawer, AC Mains Fuses (F1 and F2) 2@5X20mm 8A Time Delay
Charging Indicator
Grounding Post
F3
F4
Fuse Cover DC Battery, Pump and Pendant Fuses 3 ATO Fuses; 3@ 20A (P/N 304849)
Floor Feet
ON/OFF Switch (20Amp Circuit Breaker)
Power Cord Receptacle
Caster

FIGURE 2-2 BASE COMPONENTS POWER SUPPLY

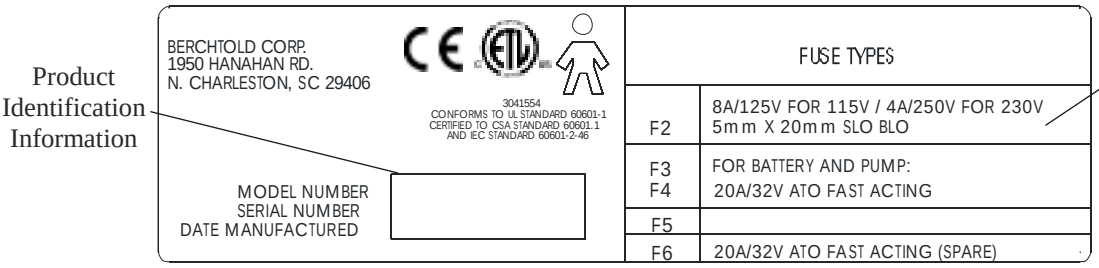


FIGURE 2-3 PRODUCT IDENTIFICATION AND FUSE INFORMATION LABEL

Two in-line 250V/0.6A fuses protect various components on the AC line. One fuse, located near the head side of the column protects the CPU from power surges (FIGURE 2-2). The second fuse, located on the right side of the column, is in the line between the AC mains and the transformer.

FLOOR LOCK SYSTEM

Four self-stabilizing floor feet compensate up to 1/4" (6 mm) for unlevel floors. The floor feet must be lowered (locked) or raised (unlocked) using the control pendant. When the floor feet are raised, the table rests on four non-conductive casters.

PRIMARY HAND PENDANT

A primary hand pendant controls all table functions. The floor feet must be locked by activating the FLOOR LOCK function to operate the other pendant functions. This ensures that the table base will not move while the tabletop is articulating.

The primary hand pendant plugs into the right side of the remote control connector box, which is located on the left side of the table. Insert the pendant so the red dot on the connector aligns with a red dot on the socket in the Primary Hand Pendant Connector Box. See FIGURE 2-4 for the location.

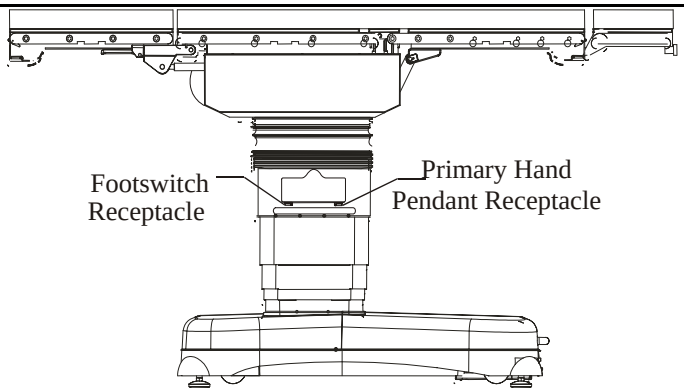


FIGURE 2-4 PRIMARY HAND PENDANT AND FOOTSWITCH CONNECTOR BOX

Hand Pendant Operation

The table may be turned on by pressing the hand pendant ON button or by pressing any of the hand pendant function buttons.

NOTE

***NOTE** — The main DC power switch on the base of the table must be ON for the hand pendant to activate.*

If you activate the table by pressing the ON button, the hand pendant LEDs for the DWR, SERV, LOCK/UNLOCK, and all battery levels will illuminate briefly. This is a self-test function.

If there is a problem with the hand pendant, the connection to the table, or any of the table functions, the SERV light will remain on.

If there are no problems, all LEDs except the current floor lock and battery status displays will go out and the function buttons will become back lit to indicate that the table is in a "controls active" status (FIGURE 2-5).

FIGURE 2-5 HAND PENDANT POWER-ON INDICATORS

To conserve battery power, the hand pendant will automatically go into SLEEP MODE (backlighting will turn off) after 90 minutes of non-use. This period can be changed through the table's Service Software Program, which is described in the "Service Program" section of the *Service and Parts Manual* (70-000-0027).

If you activate the hand pendant from the SLEEP MODE by pressing any of the function buttons (other than the ON button), the self-test will be performed after the button is released. To actuate the function associated with the button it must be pressed a second time after "awakening" the hand pendant. If the floor legs are NOT locked, the back lighting will come on and the hand pendant will go into "controls active" status, and the floor locks will automatically extend and lock.

To operate any hand pendant function, press and hold the button for the action desired. If you press the floor lock or unlock function, you do not have to hold the button until the function is complete. Once started, the floor locking or unlocking action will be completed automatically.

You can press only one button at a time. If you press more than one button at the same time, neither will work. If you press a second button while one function is operating, the function will stop. To restart the function, you must release the function button and press it again.

Each articulation has a software controlled limit. You can stop any motion by releasing the function button or you can hold the button until it reaches the limit set for that function, and the movement will stop automatically.

NOTE

***NOTE** — The On/Off function on the control pendant may be used to stop the table while in motion.*

Primary Hand Pendant Indicators

See FIGURE 2-6 for location of indicators

1. **AUX PENDANT** (orange) — Auxiliary hand pendant drawer is open. The primary hand pendant will still be enabled if the auxiliary hand pendant drawer is open.
2. **SERVICE** (red) — Table malfunction. It is likely that most of the functions still work properly and can still be controlled from the primary hand pendant. If the control pendant is not working, use the auxiliary hand pendant and the manual foot pump (if necessary) to articulate the table until the malfunction can be repaired.

NOTE

***NOTE** — If the SERV indicator lights, call your local Berchtold Corporation Service Representative.*

3. **REVERSE** (orange) — Indicates reverse orientation of controls.
4. **FLOOR UNLOCK** — Floor feet are raised so table is mobile.
5. **FLOOR LOCK** — Floor feet are lowered so table is locked in place.
6. **BATTERY** — Indicates charge status of the batteries:
   - Green — Full to medium charge. Normal Operation.
   - Yellow — Low charge. Table still operates normally, but batteries should be charged at the first opportunity.
   - Red (steady) — Recharge battery. Pump motor is shut off and manual foot pump must be used with auxiliary pendant.
   - Red (flashing) — Auxiliary pendant must be used. Recharge battery immediately!
7. **ON** ⊙ (backlight) — Control pendant is activated.

NOTE

***NOTE** — In the event of a primary hand pendant failure, use the auxiliary hand pendant and foot pump to complete the procedure and contact your local Berchtold Corporation Service Representative.*

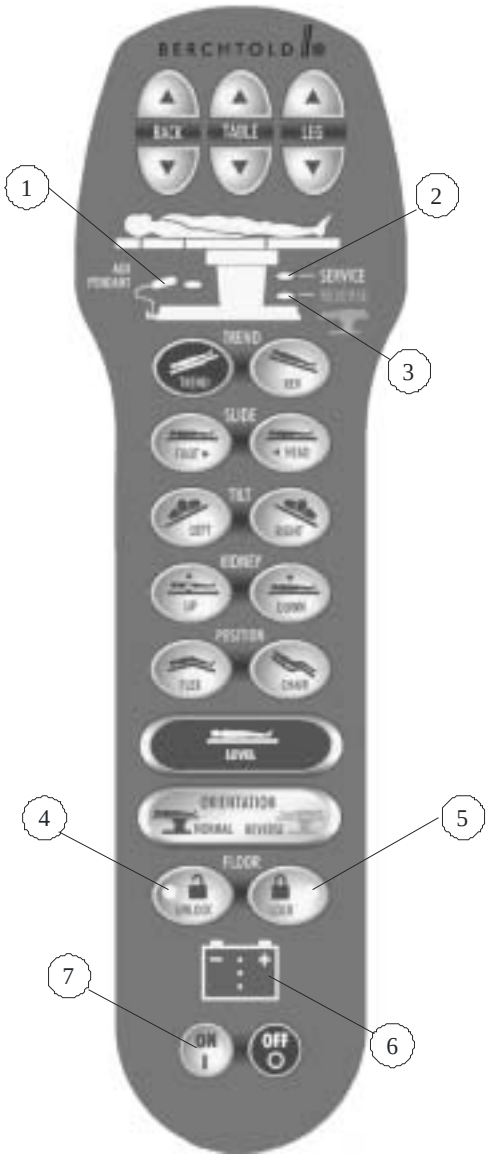


FIGURE 2-6 PRIMARY HAND PENDANT INDICATORS

Primary Hand Pendant Functions

WARNING

WARNING *— The primary hand pendant is configured for normal patient orientation. If the patient is reversed, the back function must be used to raise or lower the patient's legs and the leg function must be used to raise or lower the patient's back. Trendelenburg, tilt, and slide functions are also reversed if the patient is in reverse orientation.*

1. **BACK** ⬍ — Raises and lowers the back section.
2. **TABLE** ⬍ — Raises and lowers the entire tabletop.
3. **LEG** ⬍ — Raises and lowers the leg section.
4. **TREND/REV TREND** (Trendelenburg) — Tilts the entire tabletop about the transverse axis.
5. **FOOT SLIDE/HEAD SLIDE** — Slides the table top toward and away from the head.
6. **TILT LEFT/TILT RIGHT** — Tilts the entire tabletop about the head to foot axis.
7. **UP KIDNEY/DOWN KIDNEY** — Raises and lowers the kidney elevator.
8. **FLEX** — Combines back down with reverse Trendelenburg to form an inverted V (jackknife position).
9. **CHAIR** – Combines back up, Trendelenburg, and leg down functions to form a chair-like support. The three functions operate in a repeating sequence until the back section reaches 80° relative to the seat section and the leg sections reach 105° degrees relative to the seat section.
10. **LEVEL** — Moves all table sections to a horizontal position that is within 1 degree of level.
11. **ORIENTATION NORMAL/REVERSE** — In REVERSE mode, the buttons function in reverse. CHAIR is disabled in reverse orientation. Table up/down, floor lock/unlock, and kidney up/down are not reversed.
12. **FLOOR** UNLOCK / LOCK — Raises (unlocks) or lowers (locks) the floor feet.

NOTE

NOTE: — The power switch on the base of the table must be in the ON position before any hand pendant function will operate.

13. **ON/OFF** — Turns the primary hand pendant on and off. The pendant will be backlit when activated.

NOTE

NOTE *— If AC power is not present, the auto-shutdown feature will turn the control pendant off after about ninety minutes of non-use. To reactivate the pendant, press any function button. If AC is present, the auto-shutdown feature is disabled, and the hand pendant remains on until it is turned off.*

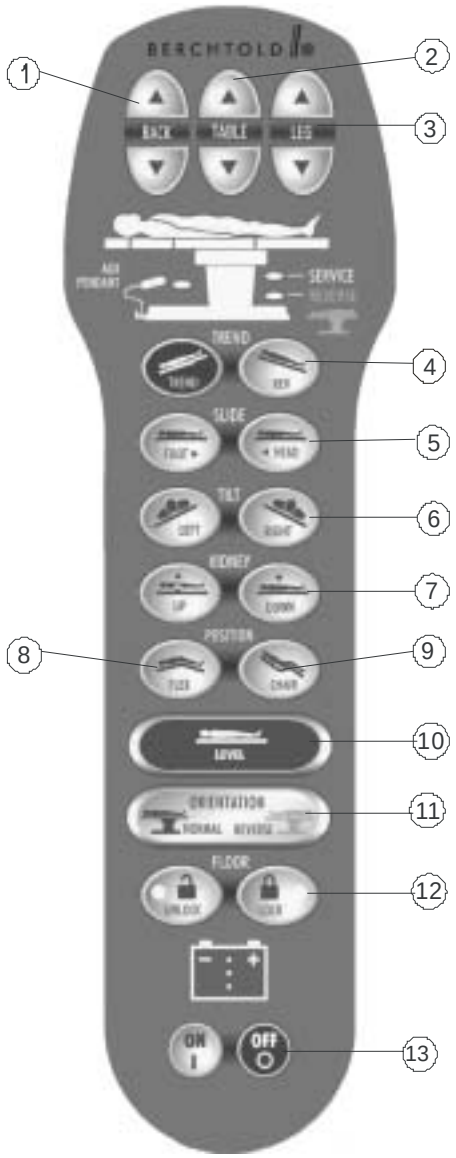


FIGURE 2-7 PRIMARY HAND PENDANT FUNCTIONS

FOOTSWITCH (OPTIONAL)

A footswitch control is available for procedures where the surgeon is normally seated at the pelvic end of the patient (FIGURE 2-8). Footswitch functions include:

- Trendelenburg/Reverse Trendelenburg
- Tilt Left/Tilt Right
- Table Up/Down

The footswitch is connected by aligning the red dot on the footswitch connector with the red dot on the socket in the Remote Control Connector Box. See FIGURE 2-4 for location of connector.

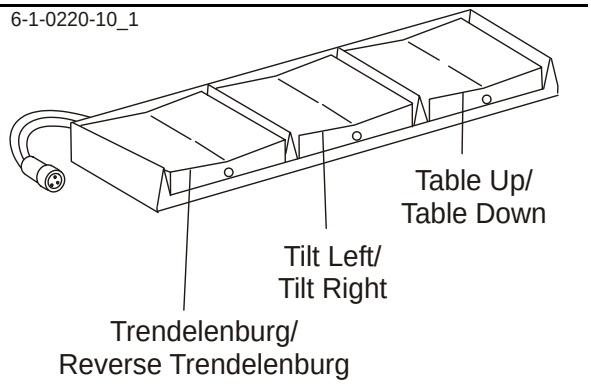


FIGURE 2-8 FOOTSWITCH

Pressing one of the footswitch controls turns the table on and places it in "controls active" status. However, none of the functions will operate unless the floor locks are set. The floor locks must be operated through the hand pedant.

MANUAL FOOT PUMP

The manual foot pump is used to provide hydraulic pressure when there is no electric power to operate the hydraulic pump. This could occur due to any of the following conditions:

- Battery power is low as indicated by a steady or flashing red battery light on the hand pendant.
- A combined failure of the battery and AC mains power supplies.
- A failure of the table's hydraulic pump or the electrical system that powers the hydraulic pump.

The manual pump pedal is located at the head end of the base.

To use the manual foot pump:

1. Pull the foot pedal straight out as far as it will go. See FIGURE 2-9.

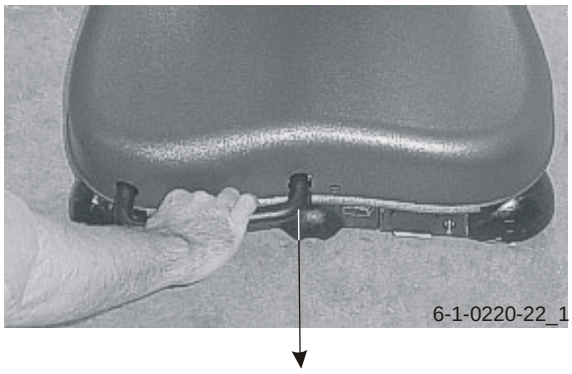


FIGURE 2-9 DEPLOYING THE FOOT PUMP PEDAL

2. Rotate the pedal clockwise until the pedal can be pulled out farther.

3. Extend the pedal until it snaps into position (FIGURE 2-10).

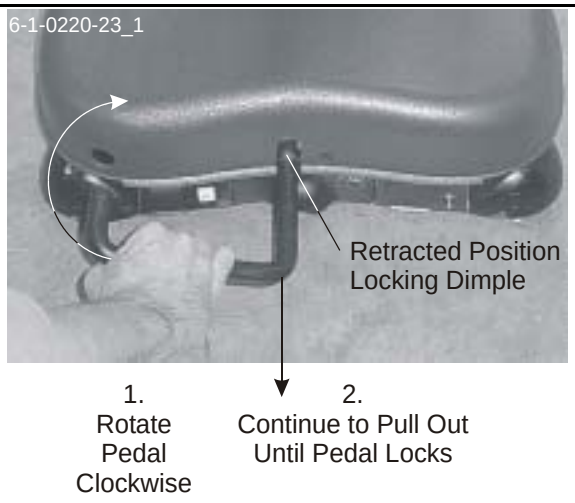


FIGURE 2-10 LOCKING THE FOOT PUMP PEDAL

4. To articulate the table, press and hold the desired function button on the auxiliary control pendant (see next section) and operate the manual pump with your foot. For best results, depress the pump pedal completely, making full strokes, at the rate of about one stroke per second.

To re-insert the pump pedal:

1. Push the pedal back into the table until the end is close to the base cover.

2. Rotate the pedal counterclockwise until the end aligns with the hole in the base cover.

3. Continue to push the pedal into the table until it snaps into the retracted position.

AUXILIARY HAND PENDANT

The yellow auxiliary hand pendant is located in the auxiliary hand pendant control drawer at the head end of the base.

Use the auxiliary hand pendant when:

- The primary hand pendant will not function
- The batteries are nearly discharged, AC power is not available, and the table must be mobilized.

See FIGURE 2-11 for the location of the Auxiliary Hand Pendant and drawer.

WARNING

WARNING *— The auxiliary hand pendant is configured for normal patient orientation. If the patient is reversed, the Back function must be used to raise or lower the patient's legs and the Leg function must be used to raise or lower the patient's back. Trendelenburg, tilt, and slide functions are also reversed with respect to the patient's orientation.*

WARNING

WARNING *— The auxiliary hand pendant functions will operate regardless of whether the floor feet are locked or unlocked. If the floor feet are unlocked, the table may roll when the manual pump is operated.*

CAUTION

CAUTION *— The auxiliary hand pendant does not have the following functions: FLEX, CHAIR, RETURN TO LEVEL, and SLIDE. This pendant is intended to be used for completing procedures, followed by charging the batteries or servicing the table.*

Section 4 of this manual contains more information on the auxiliary hand pendant, including a graphic with function button identifications.

AUXILIARY PENDANT DRAWER

Do this to use the auxiliary hand pendant:

1. Pull the finger tab and slide the pendant out (FIGURE 2-11).
   - Removing the pendant activates a switch that turns the auxiliary pendant on.
   - Activating the auxiliary hand pendant does NOT disable the primary hand pendant.

FIGURE 2-11 LOCATION OF AUXILIARY PENDANT AND DRAWER

2. Press and hold the desired function button.

FIGURE 2-12 AUXILIARY HAND PENDANT KEYBOARD

3. Operate the manual foot pump until the table top is in the desired position...

NOTE

NOTE *— Cord and auxiliary hand pendant should be placed in separate compartments as labeled.*

When the procedure is complete, do this to stow the auxiliary hand pendant:

1. Carefully fit it and cord into the compartment.
2. Close the door firmly.
3. If deployed, stow the foot pump handle.

TABLE 2-1. TECHNICAL DATA

Electrical Power Requirements:	120V AC, 50/60 Hz, 6A, Single-phase.
Environmental and Storage Requirements:	
Operation	Ambient temperature range of 50 to 100° F (10 to 38° C), relative humidity range of 10% to 95%, at altitudes from sea level to 8000 ft.
Transport and Storage	Ambient temperature range of –30 to +150° F (-34 to 66° C) relative humidity range of 0% to 95% at altitudes from sea level to 50,000 ft.
Table Top	Radiolucent and conductive carbon fiber panels conform to 21 CFR Subchapter J, Radiation Control for Health and Safety Act of 1968.
Dimensions:	
Length	76 inches (1930 mm)
Width	21 inches (533 mm); excluding the side rails.
Height	28 to 48 inches (711 mm to 1219 mm)
Weight	Approximately 715 lbs. (325 kg)
Range of Motion:	
Trendelenburg	Up to 30°
Reverse Trendelenburg	Up to 30°
Lateral Tilt	Up to 20° right or left
Back Section	From 40° below horizontal to 80° above horizontal
Kidney Elevator	Extendable up to 3 inches (76 mm)
Leg Section	From 0° above horizontal to 105° below horizontal
Headrest	Adjustable from 90° below horizontal to 90° above horizontal in 15° increments
Longitudinal Slide	12 inches (305mm) total
Flex	225°
Chair	Leg Section 105°, Back Section 80° relative to the Seat Section, which may be up to 30° in the Trendelenburg position.
Load Capacity:	
Lifting and Articulation	600 lbs. (273 kg)

Berchtold Corp. will, upon request, provide circuit diagrams, component part lists, descriptions, and other information needed to assist service personnel in the maintenance and repair of the **OPERON B 810** Surgical Table.

The service and parts manual (part number 70-000-0027) can be ordered by calling the phone number on page 5-3.

Technical assistance can also be obtained by calling the number on page 5-3.

OPERATING INSTRUCTIONS

PINCH POINTS

WARNING *— Cutting or crushing injury may occur if any part of a patient or staff member is caught in a pinch point when the table is articulated.*

CAUTION *— Damage to the table or object may occur if any foreign object is caught in a table pinch point when the table is articulated.*

Due to the variety of table positions attainable with the **OPERON B 810** table, pinch or crushing points exists. The OR staff must be trained to ensure that body parts or surgical apparatus are not caught in pinch points when the table is operated.

This list is not all-inclusive because pinch points can be created by the attachment of accessories. Always ensure that the patient and staff are clear of all pinch points before moving the table or while the table is in motion.

Pinch points include but are not limited to:

1. Kidney elevator to seat top
2. Kidney elevator to seat channels
3. Kidney elevator to back section
4. Headrest to back section
5. Back section link to seat channel
6. Back section to side shields
7. Side shields to column shields (in tilt)
8. Column shields to base cover
9. Base to floor
10. Floor feet to base
11. Floor feet to floor
12. Leg section to base cover
13. Leg section to column shield
14. Leg section to side shields
15. Leg section to seat section.

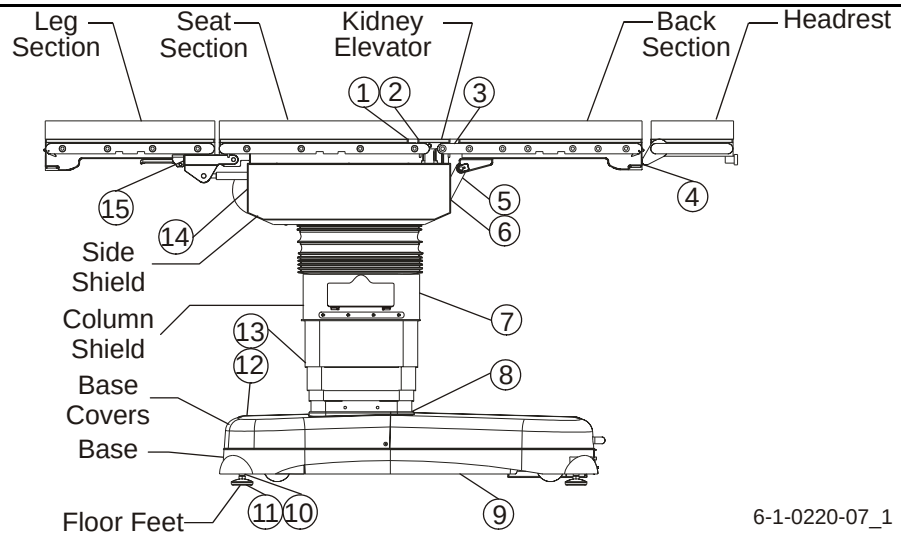


FIGURE 3-1 PINCH POINTS

WARNING *— When using the table in the vicinity of high-frequency surgical equipment, such as cardiac defibrillators, and cardiac defibrillator monitors, refer to the manufacturers' instructions to ensure compatibility issues are considered.*

This surgical table has been tested to EN 60601-1-2 to ensure proper electromagnetic compatibility. Other products used in the vicinity of the surgical table should also comply with this standard. If they do not comply, interference between products resulting in unintended responses may occur. Please contact the appropriate manufacturer(s) if any problems arise.

If the integrity of the external protective earth conductor arrangement is in doubt, the surgical table should be operated from its internal electrical power source (batteries) until the situation is corrected. The batteries require charging at least once a week. If the integrity of the external protective earth conductor arrangement is in doubt, and the batteries are not charged, operate the surgical table with the manual

foot pump and the auxiliary hand pendant until the situation is corrected.

LOAD CAPACITY

WARNING

WARNING *— Overloading may result in tipping of the table or failure of the table sections to move. Do not exceed maximum load.*

The patient lifting and articulation capacity is 600 lbs. (273 kg). This means that a 600 lb. patient can be moved into any of the standard procedural positions.

PATIENT ORIENTATION

WARNING

WARNING *— Before positioning the table, be sure the correct table orientation is selected as indicated by the NORM or REV indictor on the primary control pendant. Improper orientation will result in reverse functioning and potential patient injury.*

Normal Orientation

Normal Orientation is defined as follows:

- The head end is the end where the manual pump is located.
- The perineal cutout in the seat section is exposed
- Left and right, refer to the patients left and right.

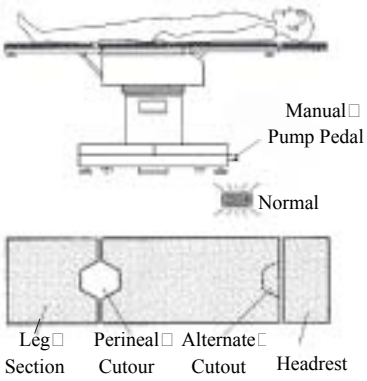


FIGURE 3-2 NORMAL TABLE ORIENTATION

Reverse Orientation

Reverse orientation is defined as follows:

- The head end is opposite the manual pump.
- The back/seat pad is reversed to expose the perineal cutout in the back section.
- The headrest is removed and the optional leg extension or fem-pop board is installed into the back section.
- Left and right, refer to the patients left and right.

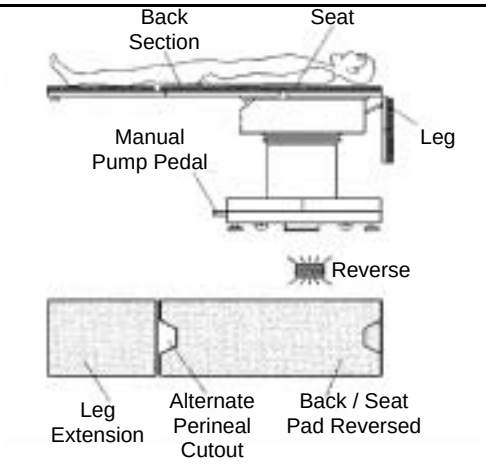


FIGURE 3-3 REVERSE TABLE ORIENTATION

PATIENT POSITIONING

WARNING

WARNING *— Possibility of tipping: If full slide forward is required, the patients' pelvis must always be located over the seat section when in normal orientation. Using full forward slide while the patient's pelvis is on the leg section can impair table stability and result in patient injury or equipment damage.*

When the patient is placed in the Lithotomy position on the seat section, the following precautions must be followed to ensure safety and stability:

- The table must be securely locked to the floor and not mobilized while the patient is in this position.

WARNING

WARNING *— The leg section may be removed from the table. If it is left on the table, use caution when raising the leg section while the patient is in this position.*

NOTE

NOTE: *— The tabletop may be slid towards the foot end of the table (full slide forward) without compromising stability.*

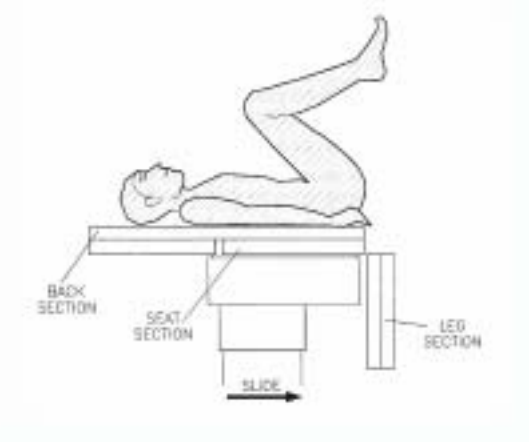


FIGURE 3-4 NORMAL PERINEAL POSITION

For OB/GYN, cystoscopy, and endo/urology procedures using a C-Arm, the patient may be reversed with the pelvis positioned on the back section over the alternate perineal cutout.

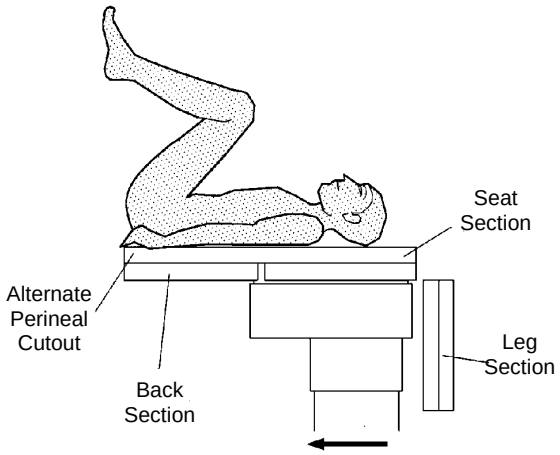


FIGURE 3-5 REVERSE PERINEAL POSITION

The table must be securely locked to the floor and not mobilized while the patient is in this position.

NOTE

NOTE: *— The tabletop may be slid towards the head end of the table (full slide reverse) without compromising stability.*

TABLE MOVEMENT WITH PATIENT

WARNING

WARNING *— If the table needs to be moved with a patient on the table, it is very important to follow the following instructions to prevent patient injury or equipment damage.*

WARNING

WARNING *— The table should not be used to transport a patient over a long distance. This procedure is only meant for repositioning the table within the surgical suite.*

Certain ENT, Neuro, and Ortho procedures require that the table be moved after anesthetizing the patient. If this is required, the following steps must be followed:

1. Be sure that the patient is properly secured to the table with straps.
2. Center the patient over the main lift column.
3. Lower the table to its lowest point.
4. Check the floor for and remove objects that may interfere with moving the table, such as power cords or table accessories.
5. Have at least one person at each end of the table.
6. Unlock the table.
7. While moving the table, the people at each end must use a lateral force in the direction of motion; do not lift up on a section or push down on a section.
8. Immediately lock the table when you reach the new location.

OPERATION

CAUTION

CAUTION *— Storage of clamps, accessories, etc., on the base cover may result in damage to lift column shields and prevent proper elevation or descent of the table.*

NOTE

NOTE *— The table can be operated with or without the power cord connected to the mains inlet receptacle. Plug in the power cord if the batteries need recharging. The table may be operated while the batteries are charging.*

If desired, plug the table's power cord into a mains power source. When the table is plugged in via the power cord, it is powered by mains AC. When the

power cord is not plugged in, the batteries provide power to the table. In either case, the ON/OFF switch on the base must be ON to articulate any table sections. When the ON/OFF switch on the base is OFF, the table's electronics and pump motor are isolated from the power supply and the batteries. When the charge indicator lamp near the power cord receptacle is illuminated, mains AC is sensed by the table and the battery charging system is activated. If AC is present, the battery charging system is activated whether the ON/OFF switch on the base is ON or OFF. The table can remain plugged into AC indefinitely without damaging the batteries.

1. Press the ON button on the control pendant to activate the control pendant

***NOTE** — If no table function is selected and AC is not present, the control pendant will automatically turn off after a preset time. The delay interval is adjustable through the table's service software. If AC is present, the auto-shutdown feature is disabled. To reactivate the pendant, press a function button. To move the selected function, press the button a second time.*

2. Press FLOOR LOCK to lower the floor feet. The green LOCK indicator on the control pendant will light when the floor feet are locked.
3. Select the desired function by pressing and holding the appropriate function switch.
4. When the desired position has been reached, release the function switch to stop movement.
5. After the patient has been transferred from the table, press FLOOR UNLOCK to raise the floor feet and allow table transport. The yellow UNLOCK indicator on the control pendant will light when the floor feet are unlocked.

If the table functions do not operate, check the following:

1. Is the On/Off switch on the base in the OFF position?
   - Turn the switch to the ON position.
2. Is the yellow UNLOCK indicator lit?
   - Lock the floor feet.
3. Is the red battery indicator flashing or steady?
   - Use the manual foot pump or plug in the table. Plugging in the table will allow normal use and also recharge the batteries.
4. Is the red SERV indicator lit?
   - A lit SERV indicator indicates that service is required, but may not disable a table function or functions, depending on the failure. If a failure occurs that can allow an unsafe operation, the specific function, such as return to level, will be disabled but the other functions will remain enabled. Only a catastrophic failure of the main processor will light the SERV LED and disable all table functions. Always contact Berchtold Service if the SERV indicator is lit.

FUNCTION PRIORITY

When a function is selected using either, the primary hand pendant, or optional footswitch, the table will stop performing the function that was in progress. To resume the motion, you must release the function (or footswitch) button and press it again.

TABLE MOVEMENT LIMITS

Due to the **OPERON B 810** table's extensive articulation range, some functions can not be combined at their maximum capability. These interfering functions are limited in two ways; by the table software and by the user.

Software-Controlled Limits

The software controls limit the functions described in TABLE 3-1. If the Berchtold table is positioned according to "POSITION OF FUNCTION", the software prevents movement beyond the range specified by "RESULTING FUNCTION LIMIT". The user cannot override these limits using the control pendant.

TABLE 3-1. SOFTWARE-CONTROLLED LIMITS

Position of Function	Resulting Function Limit		
Back Section raised over 26°	Kidney elevator cannot be operated		
Any raising of the kidney elevator	Limits Back section to maximum of 26° above horizontal		
Trendelenburg and Reverse Trendelenburg	± 30 ° except:		
	When Tilt Right is:	Max Trend angle is:	Max Reverse Trend angle is:
	0° to 5°	30°	30°
	5.1° to 10°	30°	15°
	10.1° to 20°	22°	15°
	When Tilt Left is:		
	0° to 10°	30°	30°
	10.1° to 20°	22°	22°
	When Leg angle is:		
	>65°	30°	10°
	>90°	30°	Disabled
	When Back down angle is:		
	>30°	15°	30°
	When table Height is:		
	<31”	15°	15°
	31”<Height<40” AND Leg >65°	15°	5°
Tilt Left and Tilt Right	± 20 ° except:		
	When Trend is:	Max Tilt Right is:	Max Tilt Left is:
	0° to 20°	20°	20°
	>20°	10°	10°
	When Rev Trend is		
	0° to 15°	20°	20°
	15° to 22°	5°	20°
	>22°	5°	10°
	When Leg down is		
	>65°	Disabled	Disabled
Back angle	If Height is	Max Back angle is	Min Back angle is
	<31”	80°	30°
Leg angle	+0°, -105° except		
	If Reverse Trend is	Max Leg up angle is	Max Leg down angle is
	>10°	0°	65°
	If table Height is		
	<31”	0°	65°
	If Tilt (right or left) is		
	>5°	0°	65°
	Height < 31” AND Slide is Max Forward (leg end)	0°	97°
Slide	Slide Function is disabled if: Trendelenburg or Reverse Trendelenburg angles >15° Leg Down > 65° AND Height <31”		
Height	If Leg down angle is	Max Height is	Min Height is
	>65°	46”	31”

User-Controlled Limits

CAUTION *— Watch the table at all times while performing multiple articulations. Stop table movements before collisions occur. Failure to do so could result in damage to the table.*

Some collisions are possible when combining accessories and multiple articulations, particularly at low table heights. When combining functions, you must monitor the table's position to ensure collisions are avoided.

CAUTION *— If the procedure does not require the use of the table's leg section, it should be removed. .*

HEADREST

WARNING *— Do not mount knee crutches or leg holders to the headrest side rail. The headrest should only be used for supporting the head or feet. Do not lean on the headrest. The headrest has a weight limit of 25lbs.*

WARNING *— Be sure that when articulating the headrest, the locking mechanism ends up properly engaged, and not in between positions. The headrest may move when load is applied until the locking mechanism engages.*

The table headrest can be latched in any position from 90° above horizontal in 15° increments (FIGURE 3-6).

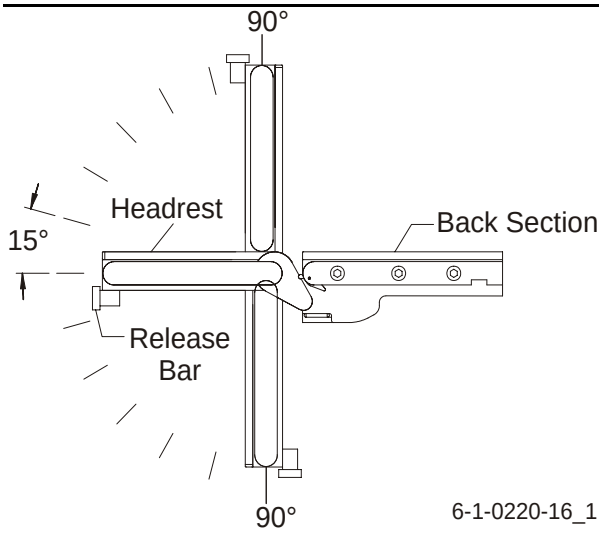


FIGURE 3-6 HEADREST

To raise and lower the headrest, release the locking mechanism by pulling out the release bar on the right underside of the headrest. When the headrest is properly positioned, release the bar.

WARNING *— When releasing the locking mechanism, support the headrest, as it will fall freely if the locking mechanism is not engaged.*

REMOVABLE LEG SECTION

WARNING *— Failure to securely lock the leg section into place may result in patient injury. Always check the retention of the leg section upon installation.*

Install the leg section as follows:

1. Using the pendant, activate LEG UP until the leg section pivots are parallel.
2. To align the leg section for installation, place the leg section posts into the pivots at a –45 degree angle as shown in figure 3-7.

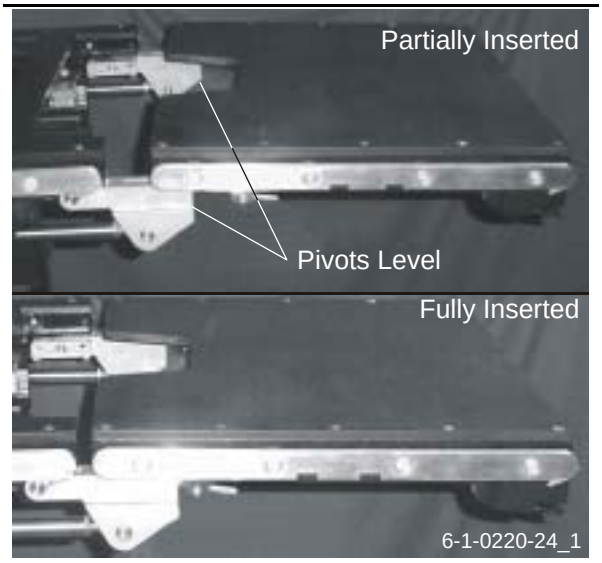


FIGURE 3-7 ALIGNING THE LEG SECTION FOR INSTALLATION

3. Once the leg section is aligned, lift to a horizontal position and insert the leg section into the pivots. Slide the leg section towards the seat section until it comes to a stop and the locks snap into place. See FIGURE 3-8 and FIGURE 3-9.

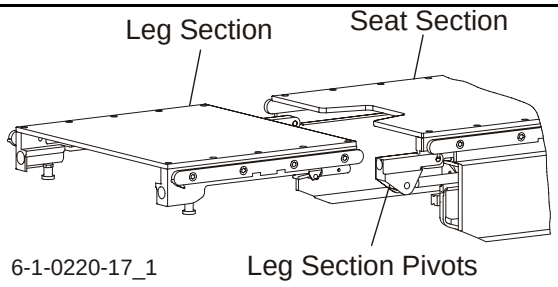
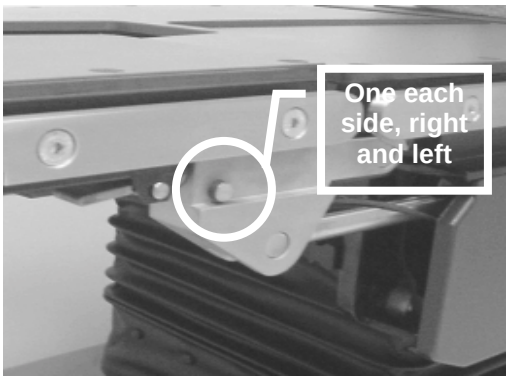


FIGURE 3-8 LEG SECTION

REDUNDANT LEG SECTION LOCK

For added security, the removable leg section includes a locking mechanism as pictured below:



It is recommended that, while the leg section is attached, the two pins on each pivot are pressed inward (the red coating is not visible).

Attempt to pull the leg section away from the table to make sure that it is retained. If not, push evenly until the locks engage.

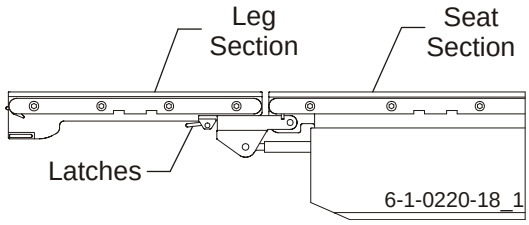


FIGURE 3-9 ASSEMBLED LEG SECTION

To remove the leg section:

1. Bring the leg section to a level position, i.e. parallel to the floor.
2. To detach the leg section, first press the locking pins outward, then remove the leg section as described above.
3. Depress the latches to release the locking mechanism and pull back evenly.

FOOTSWITCH (OPTIONAL)

CAUTION

CAUTION *— The Footswitch's electrical connections are resistant to fluid intrusion, but if fluid drainage is anticipated, the footswitch should be protected by wrapping it with a clear disposable footswitch bag. This will reduce the need to disinfect the footswitch.*

NOTE

NOTE *— to operate the footswitch control, the floor feet must be locked.*

NOTE

NOTE *— It is not necessary to press the primary hand pendants ON/OFF switch when operating the footswitch control. The primary hand pendant can not be operated simultaneously with the footswitch.*

The footswitch plugs into the left connector on the receptacle box, which is located on the left side of the table. Align the red dot on the footswitch connector with the red dot on the mating connector on the left side of the connector box (FIGURE 3-10).

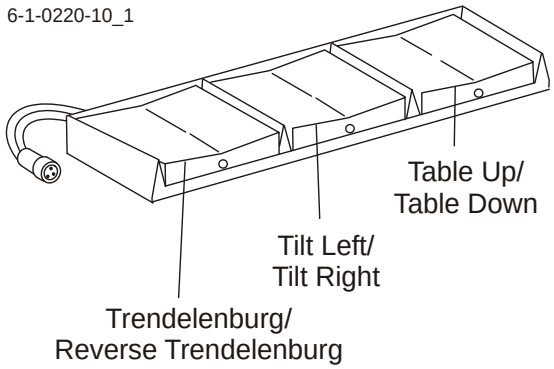


FIGURE 3-10 FOOTSWITCH

NOTE

NOTE *— To avoid inadvertent actuation, the footswitch should be disconnected for procedures that do not require its use.*

The footswitch will not operate if the red battery indicator is lit, either flashing or steady.

To operate the table, pressing the appropriate side of the rocker switch. Pressing the opposite side of the rocker will reverse the direction of travel. Releasing the rocker switch will stop table movement.

BACKUP INSTRUCTIONS

It is highly recommended that all operators become familiar with the following backup instructions and with the operation of the auxiliary hand pendant and manual foot pump before using the table. See Auxiliary Pendant section on page 2-8.

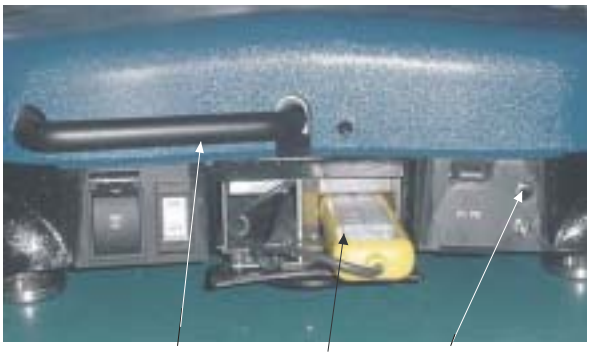


FIGURE 4-1. BACKUP SYSTEMS

NOTE

***NOTE:** — When using the auxiliary hand pendant, press and hold the button while operating the foot pump.*

FIGURE 4-2. AUXILIARY HAND PENDANT

TABLE 4-1. OPERATOR TROUBLESHOOTING GUIDE	
Problem	**Action**
Loss of main AC electrical power, indicated by the charging indicator being OFF.	If battery indicator is green or yellow, no action is required. The batteries are charged.
	If the battery indicator is red (steady), use the manual foot pump to provide hydraulic power.
	If the battery indicator is red (flashing), use the auxiliary pendant to select functions and the manual foot pump to provide hydraulic power.
Main AC power is present, but the charge indictor does not illuminate.	Check mains AC fuses (see FIGURE 2-2). Replace if blown. If this does not correct the problem, an internal table failure has occurred that requires repair. Contact Berchtold service in either case.
Primary hand pendant will not turn on.	The main DC power switch on the base must be in the on position (up). If it is down (off), push on the top of the switch to turn it to the ON position (see FIGURE 2-2.).
	The Battery fuse is blown. Check the top fuse in the drawer (FIGURE 2-2). Replace if blown and contact Berchtold Service to determine the cause. Plug table into AC power supply for use if no fuse is available.
Primary hand pendant illuminates when turned on, but will not function.	Check the status of the Lock LED. The table must be locked to the floor to enable the other functions. If the table is unlocked, press LOCK to lock the table to the floor.
Primary hand pendant failure.	Use the auxiliary hand pendant (and the foot pump if necessary) to complete the procedure and contact Berchtold Service.
Head section or leg extension cannot be removed.	Ensure that the levers on each end of the head or leg section are fully depressed. Pull the head section or leg extension out by applying an even force on each side of the section.
Service indicator illuminates.	Contact Berchtold Service. An illuminated service indictor can cause certain functions, such as RTL, CHAIR, and FLEX to be disabled. Other functions may work normally.
The primary hand pendant functions normally, but the pump motor will not operate.	The motor may be overheated. Let the table sit for 15 minutes before attempting another function. The auxiliary pendant and foot pump can be used to complete the procedure. Contact Berchtold Service to determine the cause of the overheating.
	Check the 2nd from the top fuse in the drawer (FIGURE 2-2). Replace if blown. Contact Berchtold Service to determine the cause.
	The pump or the controller may have failed. Contact Berchtold Service for repair.
The pump motor functions, but no sections move when activated.	Check the primary pendant's solenoid fuse, the 3rd from the top in the fuse drawer (FIGURE 2-2). Replace if blown and contact Berchtold Service to determine the cause of the blown fuse.
	The solenoid controller may have failed. Contact BERCHTOLD Service for repair.
The auxiliary hand pendant will not function	The auxiliary drawer switch or the pendant may have failed. Contact Berchtold Service for repair.

MAINTENANCE

PERIODIC MAINTENANCE

Regularly scheduled preventive maintenance and inspection is essential for continued reliable operation. TABLE 5-1 lists the minimum requirements to maintain the table in a ready condition.

***NOTE** — a qualified service technician should perform The following procedures. Refer to the Service/Parts Manual (publication 70-000-0027) for procedures.*

Berchtold Corp. will make available on request circuit diagrams, component part lists, descriptions and other information needed to assist technical personnel in the repair of the surgical table. Much of this information can be found in the *Service/Parts Manual (*Part Number 70-000-0027).

TABLE 5-1. RECOMMENDED MAINTENANCE SCHEDULE

Maintenance Item	**Maintenance Period**
Inspection:	
Electrical safety (visual)	Monthly
Remove base cover to check for contamination around foot pump shaft. Clean as required.	Quarterly
Hydraulic system operation	6 monthly
Ground continuity/leakage current	6 monthly
Flexible hydraulic lines	Annually
Hydraulic fluid level	Annually or whenever leakage is suspected or hydraulic components have been replaced.
Fasteners and retaining clips	Annually
Clamps and accessories	Annually
Slide Screw Drive Belt	Annually
Structural integrity of the table	Annually
Replacement:	
Batteries	Every 3 years or when charge/discharge cycle drops below five – eight hour shifts.

CLEANING AND DISINFECTION

WARNING *— Unplug the power cord before cleaning the table if cleaning liquids will be located near the power cord receptacle. Under no circumstances should steam or extremely hot water (over 150°F/66°C) be used to disinfect or clean the table. Elevated temperatures and unusually high humidity will weaken the hydraulic lines and result in failure of the hydraulic system and increased leakage currents. Do not attempt to clean this table in automatic cart washing equipment. Use of high-pressure water guns could lead to an electrical malfunction and must be avoided.*

NOTE *— The use of quaternary-type disinfectants without immediate rinsing may result, after an extended period of time, in corrosion of painted and plated table components. Rinse all surfaces that come in contact with this type of disinfectant and wipe dry.*

NOTE *— The OPERON B 810, with all covers installed, is splash proof in accordance with the IPX4 standard defined in IEC 529. Flooding, fogging, or steam cleaning is not recommended.*

STAINLESS STEEL SURFACES

Exterior surfaces should be regularly wiped clean with a mild detergent solution, rinsed, and wiped dry with a soft lint-free cloth.

CLEANING METHODS

When cleaning stainless steel, never wipe the material in a circular motion. Always make the cleaning strokes in the same straight direction as the grain of the metal.

Clean the surfaces in the following manner:

Apply an appropriate cleaning agent using a soft lint-free cloth.

- Rinse the surfaces with clear water using a soft lint-free cloth.
- Dry the surface with a soft lint-free cloth.

CAUTION *— Failure to thoroughly dry the surface after cleaning may result in rust.*

CLEANING AGENTS

The best cleaning agent is mild detergent. If stubborn stains persist, they should be removed using a mild cleanser such as a non-chlorinated, nonabrasive cleanser.

Strong bleaches and disinfectants that are left on the stainless steel may corrode or pit the surface of the metal.

The surface should always be rinsed with clear water and then dried, using a soft lint-free cloth, to remove any residual cleaning agent.

REMOVING STAINS

Special cleaning is required to remove stubborn stains such as plaster or blood that was left on the surfaces for a long period of time. A 5% acetic acid solution or white vinegar is a good stain remover.

APPLYING DISINFECTANTS

To disinfect exterior surfaces, use a quaternary ammonium or similar type disinfectant compound according to the manufacturer's direction for use. Rinse and wipe dry with a soft lint-free cloth.

NOTE *— DO NOT use iodophors; staining will result.*

PAINTED SURFACES

Painted surfaces should be wiped weekly with a damp, clean, soft cloth and frequently washed with a mild soap and water solution to remove persistent stains. Application of paste wax will reduce staining and help preserve the surface luster. Harsh cleansing powders should not be used on painted surfaces.

CONDUCTIVE ITEMS

Conductive cushions, pads, belts, and other components can be kept clean by washing them with mild soapsuds immediately after staining. If stains are persistent, a soft-bristle brush with mild soapsuds or detergents will usually remove the stain. It is important that stains be removed as soon as possible.

Pads may be cleaned with either phenolic or quaternary type disinfectants in concentrations recommended by the manufacturer. Disinfectants applied at full concentration or in highly concentrated solutions will decrease the life of the pad. Idophor type disinfectants may result in staining.

***NOTE** — The cushions and other accessories must be clean in order to maintain conductivity.*

***NOTE** — Do not put pads on tabletop when it is wet. Allow table top to dry prior to installing pads and cushions.*

HAND PENDANTS

The primary hand pendant and auxiliary hand pendant may be cleaned with mild detergent solutions, sanitizers, and disinfectants.

***NOTE** — Do not use solvents on plastic surfaces. Most solvents will leave permanent blemishes on plastic parts.*

***NOTE** — Do not submerge the pendants in fluids for cleaning; use only a damp cloth to clean the pendants.*

IMPORTANT TELEPHONE NUMBERS

General and Technical Information:

(800) 243-5135

Parts and Field Service Requests:

(800) 243-5135

PARTS AND ACCESSORIES

The replacement parts listed in this manual may be ordered from your Berchtold representative or you may call one of the 800 phone numbers shown at left.

The following is a partial list of parts and accessories. For additional parts and accessories, please contact your Berchtold sales or product support representative.

Qty	Part No.	Description
1	306978	Control Pendant
1	B063089	Power Cord
1	304849	20 Amp Blade fuse
1	304866	8 Amp fuse(5x20mm)
1	304873	Head Section
1	OZ-750-0775	Side Rail Clamp (required for Foot Board OZ-750-7975)
1	OZ-750-8475	26” Extension
1	OZ-750-7975	Foot-board/leg Extension with Pad
1	OZ-750-0975	Restraint Strap
1	OZ-751-0275	Footswitch
1	OZ-750-9375	Pad, 2″ Standard, Armboard
1	OZ-750-8075	Pad Set*, 2″ Gel
1	OZ-750-8275	X-Ray Cassette Holder
1	OZ-750-4175	Armboard, Trigger w/2” Pad
1	OZ-750-9575	Replacement Pad, Head
1	OZ-750-9675	Replacement Pad, Back
1	OZ-750-9775	Replacement Pad, Leg
1	OZ-750-9475	Split-Leg Section
1	OZ-750-8575	Headrest Adapter Bar
1	OZ-750-8675	Patient Transfer Board
1	OZ-750-8375	Perineal Filler Piece

* Pad Set includes pads for the following sections: seat/back, leg, and head.

***NOTE** — When ordering please specify quantity required, otherwise you will receive the quantity listed.*

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OPERATOR'S MANUAL PUBLICATION HISTORY

This publication describes the equipment as of the date of issue listed below. BERCHTOLD Corporation reserves the right to make changes in design or specifications at any time without notice. If you find any difference between the equipment you received and the components or assemblies described in this publication, contact BERCHTOLD Customer Service at 800-243-5135 for information.

PUBLICATION HISTORY

Revision	Issue Date
Rev. 1	ECO 20621 (6/2004) New Manual Release.
Rev. 2	ECO 20879 (11/2005) Update to reflect current practices.

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